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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/534,480	05/10/2005	Thomas Durbaum	DE02 0261 US	7009
65913	7550	07/06/2009		
NXP, B.V. NXP INTELLECTUAL PROPERTY & LICENSING M/S41-SJ 1109 MCKAY DRIVE SAN JOSE, CA 95131			EXAMINER PHAM, EMILY P	
			ART UNIT 2838	PAPER NUMBER
			NOTIFICATION DATE 07/06/2009	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

Office Action Summary

Application No.

10/534,480

Applicant(s)

DURBAUM ET AL.

Examiner

Emily Pham

Art Unit

2838

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6/22/2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's request (filed on 6/22/2009) for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Massie (USP 6,285,175).

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Line 5 of claim 1 recites "circuit element configured to open and close the additional path", lines 3-5 of claim 16 recite "wherein the additional current path includes a controllable element for opening and closing the additional current path.", it is unclear how many elements the additional current path has to open and close the additional path.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1 and 5-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Massie (USP 6,285,175).

Regarding independent claim 1: Massie (**FIG 1; col. 4, lines 45 - 60**) discloses power converter comprising: a current path that includes an inductor (**230**) having an input for receiving energy from a power supply (**V1**) and an output capacitor (**V5**) for providing an output voltage (**Voltage at terminal 130**); an additional current path (**path between output of inductor 230 and Ground via inductor 280 and transistor 310**), beginning at an output of the inductor (**230**) and including a circuit element (**310**) configured to open and close (**col. 4, lines 45 - 60**) the additional current path (**path between output of inductor 230 and Ground via inductor 280 and transistor 310**), said additional current path (**path between output of inductor 230 and Ground via inductor 280 and transistor 310**) formed such that a current flowing through said additional current path (**path between output of inductor 230 and Ground via inductor 280 and transistor 310**) reaches basically immediately a desired value, when said additional current path (**path between output of inductor 230 and Ground via inductor 280 and transistor 310**) is opened; and a feedback circuit (**feedback circuit to provide V5 to comparators 240 and 250; col. 4, lines 6-7**) configured to control the a circuit element (**310**) to open said additional current path (**path between output of inductor 230 and Ground via inductor 280 and transistor 310**), when said output voltage (**Vout**) across said output capacitor (**V5**) reaches a predetermined maximum

value (**col. 4, lines 45 - 60**), wherein the inductor (**230**) provides the energy from the power supply (**V_{batt}**) to a parallel arrangement of the output capacitor (**V5**) and the additional current path (**path between output of inductor 230 and Ground via inductor 280 and transistor 310**).

Regarding claim 5: Massie (**FIG 1; col. 4, lines 45 - 60**) discloses power converter, wherein said feedback circuit (**feedback circuit to provide V5 to comparators 240 and 250; col. 4, lines 6-7**) configured to control the a circuit element (**310**) to open said additional current path (**path between output of inductor 230 and Ground via inductor 280 and transistor 310**) for a predetermined time (**col. 4, lines 45 - 60; values of resistor 420 and diode 425 would decide the predetermined time to open additional path by control the duty cycle of switch 310**).

Regarding claim 6: Massie (**FIG 1; col. 4, lines 45 - 60**) discloses power converter, wherein said feedback circuit (**feedback circuit to provide V5 to comparators 240 and 250; col. 4, lines 6-7**) is configured to control the a circuit element (**310**) to close additional current path (**path between output of inductor 230 and Ground via inductor 280 and transistor 310**) when a second predetermined output voltage is reached (**V7/V8, col. 4, lines 45 - 65**).

Regarding claim 7: Massie (**FIG 1; col. 4, lines 45 - 60**) discloses power converter, wherein said feedback circuit (**feedback circuit to provide V5 to comparators 240 and 250; col. 4, lines 6-7**) is configured to control the a circuit element (**310**) to open and close the additional current path (**path between output of**

inductor 230 and Ground via inductor 280 and transistor 310) based on said output voltage (**V_{out}/V_5**).

Regarding claim 8: Massie (**FIG 1; col. 4, lines 45 - 60**) discloses power converter, wherein said feedback circuit (**feedback circuit to provide V_5 to comparators 240 and 250; col. 4, lines 6-7**) is configured to control the a circuit element (**310**) to open and close additional current path (**path between output of inductor 230 and Ground via inductor 280 and transistor 310**) based on a current through said inductor (**230**).

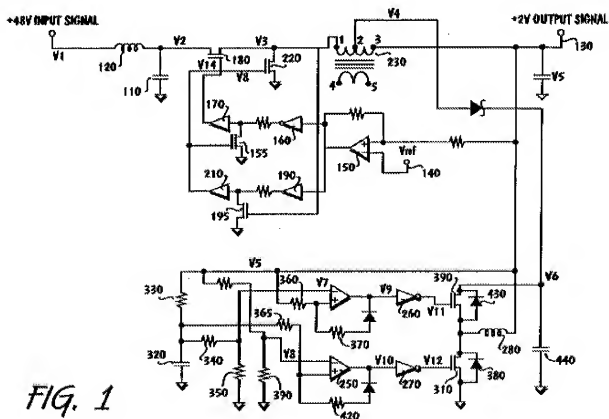
Regarding claim 9: Massie (**FIG 1; col. 4, lines 45 - 60**) discloses power converter, wherein said power converter is one out of a group of a buck converter, a boost converter and a buck/boost converter (**col. 3, lines 20-36**).

Regarding claim 16: Massie (**FIG 1; col. 4, lines 45 - 60**) discloses power converter further comprising a first switch that is coupled between the power supply (**V_1**) and the inductor (**230**), wherein the energy from the power supply (**V_1**) is provided to the inductor (**230**) via the first switch (**180**), and wherein the additional current path (**path between output of inductor 230 and Ground via inductor 280 and transistor 310**) includes a controllable element (**310**) for opening and closing the additional current path (**path between output of inductor 230 and Ground via inductor 280 and transistor 310**).

Regarding claim 17: Massie (**FIG 1; col. 4, lines 45 - 60**) discloses power converter further comprising a second switch (**220**) that is coupled between the inductor (**230**) and ground and that is coupled to the first switch (**180**).

Regarding claim 18: Massie (**FIG 1; col. 4, lines 45 - 60**) discloses power converter wherein the controllable elements inhibits the energy provided by the inductor (230) from flowing through the additional current path (**path between output of inductor 230 and Ground via inductor 280 and transistor 310**) when the additional current path (**path between output of inductor 230 and Ground via inductor 280 and transistor 310**) is closed.

Regarding claims 10-15: Massie (**FIG 1; col. 4, lines 45 - 60**) discloses an apparatus at its normal operation performing the steps of method recited in claims 10-15.



Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Massie (USP 6,285,175) in view of Irvine et al (USP 6,225,859).

Massie discloses claimed invention except for current path comprising a controllable current source. Irvine et al (**FIG 1**) teaches the use of current path comprising a controllable current source (**1c**) is well known in the art. Since Massie and Irvine et al are both from the same field of endeavor, the purpose disclosed by Irvine et al would have been recognized in the pertinent art of Massie. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to utilize current path comprising a controllable current source in the voltage converter of Massie, as taught by Irvine et al, for the purpose of providing additional shunting action.

8. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Massie (USP 6,285,175) in view of Schneiderman (USP 4,301,801).

Massie discloses claimed invention except for current path as a low impedance path comprising a resistor. Schneiderman (**FIG 2; col. 4, lines 5-8**) teaches the use of current path as a low impedance path comprising a resistor is well known in the art.

Since Massie and Schneiderman are both from the same field of endeavor, the purpose disclosed by Schneiderman would have been recognized in the pertinent art of Massie. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to utilize low impedance path comprising a resistor in the voltage converter of Massie, as taught by Schneiderman, for the purpose of providing additional current in the direction of ground.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emily Pham whose telephone number is (571)270-3046. The examiner can normally be reached on Mon-Thu (7:00AM - 6:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jayprakash Gandhi can be reached on (571) 272 - 3740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jessica Han/
Primary Examiner, Art Unit 2838

EP

